

IN THE CLAIMS

Applicant amends the Claims as follows:

Cancel claims 1-4 without prejudice.

5. (Amended) A selectable waveguide having a first position and a second position for respectively communicating first or second signals from an antenna feed to respective first and second probes, the selectable waveguide comprising,

an antenna feed port coupled to the antenna feed for communicating the signals between the antenna feed and the first and second probes,

a first waveguide section having a first shape [and coupled] and a first cross-section for coupling to the antenna feed port for communicating the first signal,

a first port for coupling [coupled between] the first probe [and] to the first waveguide section for communicating the first signal between the first probe and the first waveguide section,

a second waveguide section having a second shape [and coupled] and a second cross-section for coupling to the antenna feed port for communicating the second signal,

a second port for coupling [coupled between] the second probe [and] to the second waveguide section for communicating the second signal between the second probe and the second waveguide section, the first and the second shapes are selected from the group consisting of straight and bent at ninety degrees with a forty-five degree reflective surface, the first and second cross sections are

1 selected from the group consisting of square and circular, the
2 first and second shapes and the first and second cross sections
3 enable concurrent isolated communications of the first and second
4 signals through either one of the first and second waveguide
5 sections when the first and second signals are orthogonally
6 polarized respecting each other, and

7 an element for supporting the first and second waveguide
8 sections, the element having a first position for communicating the
9 first signal between the antenna feed port through the first
10 waveguide section to the [second] first port, the element having a
11 second position for communicating the second signal between the
12 antenna feed port through the second waveguide section to the
13 second port.

14
15
16 6. (Amended) The selectable waveguide of claim 5 wherein,
17 the element is a rotating element,
18 the first signal is a first polarized signal,
19 the first waveguide shape is straight,
20 the second signal is a second polarized signal,
21 the second waveguide shape is bent at ninety degrees having a
22 forty-five degree reflective surface, and
23 the selectable waveguide is for selecting the communicating of
24 either the first or second polarized signals, the first and second
25 polarized signals [are] being orthogonal respecting to each other.

26
27
28 ///

1 7. (Amended) The selectable waveguide of claim 5 wherein,
2 the element is a rotating element,
3 the first signal is a circularly polarized signal,
4 the first waveguide shape is straight,
5 the second signal is a linearly polarized signal,
6 the second waveguide shape is bent at ninety degrees having a
7 forty-five degree reflective surface, and
8 the selectable waveguide is for [selecting the communication
9 of] selectively communicating either the circularly polarized
10 signal or the linearly polarized signal.

11
12
13 8. (Amended) The selectable waveguide of claim 5 wherein,
14 the second signal comprises a high frequency signal and a low
15 frequency signal,
16 the reflective surface is a frequency selective reflective
17 surface for reflecting the low frequency signal[s] to the second
18 port and for passing the high frequency signal[s] to the first
19 port,
20 the second waveguide section comprises a waveguide extension
21 extending from the frequency selective reflective surface and the
22 first port for communicating the high frequency signal[s] to the
23 first probe through the first port when the selectable waveguide is
24 in the second position.

25
26
27
28 ///

JMB D2

1 9. (Amended) A selectable waveguide arrangement for respectively
2 communicating first, second or third signals from an antenna feed
3 to respective first, second and third probes, the selectable
4 waveguide arrangement comprising a front end selectable waveguide
5 and a back end selectable waveguide, wherein,

6 the front end selectable waveguide comprises:

7 an antenna feed port coupled to the antenna feed for
8 communicating the first, second and third signals between the
9 antenna feed and the first, second and third probes, respectively;

10 a first front end waveguide section having a first front end
11 shape [and coupled] for coupling to the antenna feed port for
12 communicating the second and third signals;

13 a first front end port for coupling [coupled] to the back end
14 selectable waveguide for communicating the second and third signals
15 between the antenna feed port and the back end selectable
16 waveguide;

17 a second front end waveguide section having a second front end
18 shape [and coupled] for coupling to the antenna feed port for
19 communicating the first signal;

20 a second front end port for coupling [coupled between] the
21 first probe [and] to the second front end waveguide section for
22 communicating the first signal between the antenna feed port and
23 the first probe through the second front end waveguide section; and

24 a front end element for supporting the first front end
25 waveguide section and the second front end waveguide section, the
26 front end element has a first front end position for communicating
27 the second and third signals between the antenna feed port through
28 the first front end waveguide section through the first front end

1 port to the back end selectable waveguide, the front end element
2 has a second front end position for communicating the first signal
3 between the antenna feed port through the second front end
4 waveguide section through the second front end port to the first
5 probe, and wherein,

6 the back end selectable waveguide comprises:

7 a back end input port coupled to the first front end port for
8 communicating the second and third signals between the first front
9 end port respectively to the second and third probes;

10 a first back end waveguide section having a first back end
11 shape [and coupled] for coupling to the back end input port for
12 communicating the second and third signals;

13 a first back end port for coupling [coupled] to the first back
14 end waveguide section for communicating the third signal between
15 the back end input port and the third probe through the first back
16 end waveguide section;

17 a second back end waveguide section having a second back end
18 shape [and coupled] for coupling to the back end input port for
19 communicating the second signal;

20 a second back end port for coupling [coupled between] the
21 second back end waveguide section [and] to the second probe for
22 communicating the second signal between the back end input port and
23 the second probe through the second back end waveguide section; and

24 a back end element for supporting the first back end waveguide
25 section and the second back end waveguide section, the back end
26 element has a first back end position for communicating the third
27 signal between the back end input port through the first back end
28 waveguide section through the first back end port to the third

1 probe, the back end element has a second back end position for
2 communicating the second signal between the back end input port
3 through the second back end waveguide section through the second
4 back end port to the second probe.

5

6 10. (Amended) The selectable waveguide arrangement of claim 9
7 wherein,

8 the first front end waveguide section shape is straight and
9 uniform in cross section and extends from [between] the antenna
10 feed port [and] to the first front end port,

11 the first back end waveguide section shape is straight and
12 uniform in cross section and extends from [between] the back end
13 input port [and] to the first back end port,

14 the second front end waveguide section shape is bent at ninety
15 degrees having a forty-five degree reflective surface and uniform
16 in cross section and extends from [between] the antenna feed port
17 [and] to the second front end port, and

18 the second back end waveguide section shape is bent at ninety
19 degrees having a forty-five degree reflective surface and uniform
20 in cross section and extends from [between] the back end input port
21 [and] to the second back end port.

22

23

24 11. (Amended) The selectable waveguide arrangement and claim 9
25 wherein,

26 the first and second front end waveguide sections have a
27 smaller cross section than the first and second back end waveguide
28 sections, respectively.

1 12. (Amended) The selectable waveguide arrangement of claim 9,
2 wherein the second and third signals are respective polarized
3 signals and are orthogonally polarized respecting each other.

4
5
6 13. The selectable waveguide arrangement of claim 9, wherein the
7 first front end port is a tapered port for attenuating low
8 frequency components of the second and third signals.

9
10 14. (Amended) The selectable waveguide arrangement of claim 9,
11 wherein the third signal comprises a fourth signal and a fifth
12 signal, the selectable waveguide arrangement is coupled to a fourth
13 probe and a fifth probe, the selectable waveguide arrangement
14 further comprises,
15 a coupler coupled to the first front end port and comprising a
16 fourth port and fifth port respectively coupled to the fourth and
17 fifth probes, the fourth and fifth signals are orthogonally
18 polarized respecting each other and the fourth and fifth probes are
19 polarization sensitive to respectively communicate the fourth and
20 fifth signals between the antenna feed port and the fourth and
21 fifth probes through the first front end waveguide section and
22 fourth and fifth ports.

23
24
25
26
27
28 ///